

A giant testicular teratoma

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ABSTRACT

We report a giant testicular in a 36-year-old farmer man, of 18-month duration admitted to the Surgical Department Erbil Teaching Hospital, Iraq. The tumor was invading the penis and lower part of abdominal wall including bilateral groin lymph nodes. Histological examination revealed mature and immature teratoma. Further investigations showed no evidence of any metastatic lesions apart from a solitary pulmonary nodule on the right side of the chest which proved by ultra sonic guide fine needle aspiration biopsy. Radical excisions of the tumor including the shaft of the penis, combined with bilateral block dissection of the inguinal nodes and resection of the lower anterior abdominal wall was performed. Six weeks later after a course of chemotherapy and radiotherapy, the patient underwent resection of metastatic lung lesion.

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Teratomas are tumors comprising more than a single cell type derived from more than one germ layer.¹ A significant degree of confusion has arisen regarding nomenclature for the various subtypes of teratomas.² The word itself is derived from the Greek word teraton, meaning monster, and was used initially by Virchow in the first edition of his book on tumors, which was published in 1863.³ Teratomas range from benign, well-differentiated (mature) cystic lesions to those that are solid and malignant (immature).³ Additionally, teratomas may be monodermal and highly specialized, and, rarely within some mature teratomas, may certain elements (most commonly squamous components) undergo malignant transformation.⁴ Testicular tumors account for 2% of cancers in the male, and the average age at diagnosis is 32-years.^{1,2} The cause of human testicular

tumors is unknown; teratomas account 8% of the testicular tumor.⁵ Five year survival rates depends on the cell type and stage of the disease at the time of operation. The aim in reporting this case is to show that in a closed society like Iraq, the patient can present late with fatal catastrophes. Secondly, solitary metastasis to the lung or to the liver is not a contra indication for curative surgery.

Case Report. A 35-year-old farmer, presented on May 2002 to the Surgical Department, Erbil Teaching Hospital (University Hospital), Iraq, complaining from retention of urination, associated with poor appetite and had weight loss with a non-painful, large lump arising from the scrotum invading the hole penis and lower anterior abdominal wall (**Figure 1**). On examination, a large swelling arising from the scrotum, varied in consistency between soft cystic felling to firm hard. Testes were matted; scrotum showed areas of ulceration, and the mass was invading penile shaft except the glance, lobulated with areas of necrosis and ulceration. No abdominal masses were palpated, liver and spleen were not palpable as well, and bilateral mobile inguinal nodes were palpated. Investigations showed that, hemoglobin 8.6 gm/dl, white blood cells 3400, ESR 96 mm/hour. Ultrasonography of the mass showed mixed echogenic areas with central necrosis. Chest x-ray revealed single solitary pulmonary nodule in the right side of the chest. Ultrasonography, computed tomography, and scanning of the abdomen was normal with no evidence of any para-aortic lymph node enlargement. Measurements of serum B-chorionic gonadotropin [B-h CG] and a-fetoprotein [AFP] were normal. He received 3 units of whole blood and paranteral nutrition supplement, the general condition of the patient improved rapidly within 3 days. Radical resection of the tumor was carried out together with the penis down to the visco-urethral junction with bilateral block dissection of the inguinal nodes, and lower anterior abdominal wall resection was performed. Indwelling urinary catheter fixed to the remaining



Figure 1 - Giant teratoma invading testes, penile shaft and lower abdominal wall, lobulated firm to hard, showing indwelling Foley catheter.



Figure 2 - Postoperative field, indwelling Foley catheter in side the bladder with complete resection of the involved penis.

posterior urethra (**Figure 2**). The tumor weight was 5.4 kg with an areas of varied consistency. Histology of the excised tumor (hematoxylin And easin) showed that the structure varied showing tubular structures, cystic spaces, and cartilage in the center. The histopathological results of the mass confirmed the diagnosis of invasive testicular teratoma. Two weeks postoperative, the patient received a course of chemotherapy (BEP = bleomycin, etoposide, cisplatin). Four weeks after, through the right thoracotomy, we successfully performed the removal of the tumor-contains lobe. Biopsy of the pulmonary nodule revealed a metastatic testicular teratoma. He was discharged 20 days postoperatively. There was no clinical evidence of local recurrence or distant metastasis after 32-months follow up after discharge.

Discussion. The teratoma is a germ cell neoplasm of the testis.⁵ These tumors encompass a broad range of tumors ranging from mature teratomas to immature teratomas. The histological hallmark is a mixture of multiple tissue types derived from embryologically diverse source such as epithelium and mesenchyme such as smooth muscle and cartilage.⁶ During the past 2 decades, progress in surgical techniques and the development of effective systemic chemotherapy have dramatically improved the prognosis of patients with non-seminomatous germ cell testicular tumors (NSGCTT).⁷ Despite these advances, many patients still experiencing considerable morbidity from the treatment and some die of the disease.^{5,14} In general, the morbidity associated with treatment is closely related to the clinical stage at presentation. Patients with clinical stage I, NSGCTT (cancer confined to the testes) can be treated initially by orchiectomy and then monitored by observational regimen only. Previous studies,⁸ found that the disease recurs in 30%, that sometimes require either major surgery or systemic chemotherapy. By comparison, all patients with clinical stage III disease (disseminated

metastasis) require intensive chemotherapy and some require major surgery.⁹ These patients may experience considerable morbidity associated with both major systemic chemotherapy and major surgery.¹⁰ Mortality from testicular cancer is closely related to clinical stage. For patients with clinical stage-I disease, the cure rate is 98%; however, for patients with clinical stage III it is only 70%.¹¹ The use of chemotherapeutic agents as vinblastin, actinomycin D bleomycin, cis-platinum and other drugs in combination has markedly increased the survival of patients with advanced metastatic testicular teratomas.¹² Adjuvant chemotherapy has been responsible for doubling the number of long-term survivors with advanced disease.¹³ Tumor markers [B-h CG and AFP] are valuable aids in diagnosis and follow-up.^{8,9} After radical local management of the malignant testicular tumors, by surgery, chemotherapy and radiation, it is possible to eradicate the localized solitary distant metastasis in the lung, liver and brain with relatively good survival rates, such as our reported case which labelled as stage C designates distant metastasis above the diaphragm and involvement of the lung.^{14,15}

The following important points had been taken into consideration in the discussion of this reported case: 1) Rarely invasive testicular teratoma reaching such a big size of 5.4 kg in weight.² 2) Testicular teratomas at stage C rarely sparing the intra-abdominal nodes and other structures.⁶ 3) From the prognostic point of view the size of testicular tumor, probably does not alter the life expectancy of the patients, after a proper management.^{2,4} 4) Radical surgical extirpation, chemotherapy and radiological management probably increase the life expectancy of the patients.^{6,8,11} 5) Even though apparently a solitary metastasis to other organs such as lung and liver eventually found to be curable by their excision after eradication of the primary tumor and the prognosis fairly good after resection of the localized metastasis.^{6,9,11} 6) In this reported case probably the

tumor was a classical teratoma to start with, but few months before the surgery underwent more aggressive behavior ended with local and distant metastasis.^{5,7,11,13} 7) Finally because of the presence of a strong social barrier between the members of the same family in our society such as our reported case, no body where aware about the problem of this patient, even his wife and the disease was uncovered when he developed sever urinary problems.

The studies carried out before NSGCTT suggests that orchiectomy performed promptly after the onset of testicular symptoms not only helps to reduce mortality from testicular cancer but also it has a major effect on its morbidity by reducing the need for systemic chemotherapy or major surgery.⁸ Finally, the usual presentation of testicular teratoma are:^{7,9,12} (i) Usually present with testicular swelling or mass⁷ (ii) Amount of pain is variable, but, often they are painless⁹ (iii) may present with gynaecomastia due to betaHCG production¹¹ (iv) May present with symptoms of metastatic disease¹¹ (v) Teratomas under go blood borne spread to liver, lung, bone.⁷

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